

ABSTRACT OF THE DISCLOSURE

In the forming of copper interconnects for an integrated circuit, a method for dissociating copper oxides from copper surfaces is provided. An antireflective coating layer is formed over an insulating layer formed over a semiconductor substrate. An interconnect pattern is patterned and etched into said insulating layer. A diffusion barrier layer is then conformally deposited in a deposition chamber along the etched interconnect pattern, wherein the antireflective coating is removed in said chamber before deposition of the barrier layer. Copper interconnects are formed in the interconnect pattern etched in the insulating layer. A supercritical fluid is then provided on the insulating layer. The supercritical fluid is then treated to dissociate the copper oxides from the copper surfaces.